

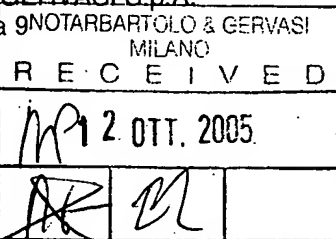
# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

## PCT

To:

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### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(PCT Rule 71.1)

Date of mailing  
(day/month/year)

07.10.2005

Applicant's or agent's file reference  
4096PTWO/er

#### IMPORTANT NOTIFICATION

International application No.  
PCT/EP2004/052537

International filing date (day/month/year)  
14.10.2004

Priority date (day/month/year)  
15.10.2003

Applicant  
S.I.P.A. SOCIETÀ INDUSTRIALIZZAZIONE ...

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international  
preliminary examining authority:



European Patent Office  
D-80298 Munich  
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# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY



(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 4096PTWO/er	<b>FOR FURTHER ACTION</b> See Form PCT/PEA416	
International application No. PCT/EP2004/052537	International filing date (day/month/year) 14.10.2004	Priority date (day/month/year) 15.10.2003
International Patent Classification (IPC) or national classification and IPC B29C49/64, B29C45/72		
Applicant S.I.P.A. SOCIETÀ INDUSTRIALIZZAZIONE ...		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a. ☒ sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:
    - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
  - ☒ Box No. I Basis of the opinion
  - ☐ Box No. II Priority
  - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - ☐ Box No. IV Lack of unity of invention
  - ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - ☐ Box No. VI Certain documents cited
  - ☒ Box No. VII Certain defects in the international application
  - ☒ Box No. VIII Certain observations on the international application

Date of submission of the demand  04.08.2005	Date of completion of this report  07.10.2005
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Ingelgard, T.  Telephone No. +49 89 2399-7249 

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

**10/575666**  
**IAP20** **RECEIVED** **10 14 APR 2006**  
International application No.  
PCT/EP2004/052537

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
    - ☐ international search (under Rules 12.3 and 23.1(b))
    - ☐ publication of the international application (under Rule 12.4)
    - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-11 as originally filed

**Claims, Numbers**

1-11 received on 12.08.2005 with letter of 10.08.2005

**Drawings, Sheets**

1/5-5/5 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
    - ☐ the description, pages
    - ☐ the claims, Nos.
    - ☐ the drawings, sheets/figs
    - ☐ the sequence listing (*specify*):
    - ☐ any table(s) related to sequence listing (*specify*):
  4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
    - ☐ the description, pages
    - ☐ the claims, Nos.
    - ☐ the drawings, sheets/figs
    - ☐ the sequence listing (*specify*):
    - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/052537

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)

10/575666  
JAP20 Rec'd PCT/PTO 14 APR 2006  
International application No.

PCT/EP2004/052537

Re Item V

5.1 The document GB1497114 is regarded as being the closest prior art to the subject-matter of claim 1, and shows:

**A conditioning device** for moulded plastic items for use in blow mould plants comprising:

- a chain or other continuous conveying device forming a spiral-type path suitable for conveying at least one plastic item;
- at least a first thermal conditioning stage comprising at least one duct through which said at least one plastic item can be conveyed and that is crossed by a length of said chain or other continuous conveying device and is suitable for thermally conditioning by heating and/or cooling said at least one plastic item; wherein said chain or other continuous conveying device follows a path comprising the sections of feeding said at least one plastic item through said first thermal conditioning stage, of removing said at least one plastic item from said first heating stage for a predetermined amount of time in order to redistribute the temperature inside said at least one plastic item with a predetermined degree of uniformity, and of re-feeding said at least one plastic item into said first thermal conditioning stage.

The subject-matter of claim 1 differs from this known device in that said at least one duct is crossed by at least two sections, of said chain or other continuous conveying device, placed side by side, wherein said sections belong each to a different spiral of said chain or other continuous conveying device.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as how to make a more compact plant and how to save energy in a oven or cooling box.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) as no other prior art shows a conditioning duct where a spiral-type path makes the plastic item pass the same duct several times, each time following a separate spiral path. Therefore the skilled man would not have the necessary information to solve the posed problem using the features of the characterizing portion of claim 1.

5.2 Claims 2-11 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

**Re Items VII and VIII**

7.1 Claims 1: The definition of the matter for which protection is sought is not clearly indicated (Rule 6.3 PCT). The general statement "A conditioning device for plastic items.." should be replaced by a more clear statement. A suggestion from the examining division is to use the formulation "A conditioning device for injection moulded plastic preforms for use in blow mould plants..". A basis for this can be found in the first paragraph of the description of the present application.

7.2 The vague and imprecise statement in the description on page 12 (lines 18 and 19) implies that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (Article 6 PCT) when used to interpret them.

7.3 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents GB1497114, US5326258 and US5308233 is not mentioned in the description, nor are these documents identified therein.

7.4 When filing amended claim(s) the applicant should at the same time have brought the description into conformity with the amended claims.

7.5 The dependent claims 2-11 should have been drafted as "A plant comprising a conditioning device as claimed in claim .." and/or as "A conditioning device as claimed in claim ..".

12 08. 2005

(91)

## NEW CLAIMS

1. A conditioning device for moulded plastic items (P) for use in blow mould plants comprising:

- a chain or other continuous conveying device (2) forming a spiral-type path suitable for conveying at least one plastic item (P);

- at least a first thermal conditioning stage comprising at least one duct (6, 7) through which said at least one plastic item (P) can be conveyed and that is crossed by a length of said chain or other continuous conveying device (2) and is suitable for thermally conditioning by heating and/or cooling said at least one plastic item (P);

wherein said chain or other continuous conveying device (P) follows a path comprising the sections of feeding said at least one plastic item through said first thermal conditioning stage, of removing said at least one plastic item from said first heating stage for a predetermined amount of time in order to redistribute the temperature inside said at least one plastic item (P) with a predetermined degree of uniformity, and of refeeding said at least one plastic item into said first thermal conditioning stage,

characterised in that said at least one duct (6, 7) is crossed by at least two sections, of said chain or other continuous conveying device (2), placed side by side, wherein said sections belong each to a different spiral (SP1, SP2, SP3) of said chain or other continuous conveying device (2).

2. A plant as claimed in claim 1 comprising at least a heating element suitable for heating by radiation many of said plastic items arranged on at least two sections of said chain, each belonging to a different spiral (SP1, SP2, SP3) of said chain, when said plastic items (P) pass side by side in at least one of said ducts (6, 7).

3. A plant as claimed in claim 2 wherein said chain or other continuous conveying device (2) is suitable for feeding said at least one plastic item (P) to be thermally conditioned through said first and second thermal conditioning stages.

4. A plant as claimed in one or more claims from 3 to 5 wherein said spirals (SP1, SP2, SP3) are substantially placed one inside the other.

5. A plant as claimed in one or more claims from 3 to 6 wherein said chain or other continuous conveying device (2) forms a closed path.

6. A plant as claimed in claim 7 wherein said chain or other continuous conveying device (2) is articulated in order to be able to bend in the three spatial dimensions and forms essentially a non planar path.

5 7. A plant as claimed in one or more claims from 1 to 6 wherein the at least one plastic item represents a plurality of preforms (P) and said at least two chain sections are equipped with a plurality of fastenings suitable for housing a plurality of preforms (P), and said at least two sections pass side by side through said at least one duct whereby the preforms are arranged in an essentially quincunx layout.

10 8. A plant as claimed in one or more claims from 1 to 7 wherein said first and second stages of thermal conditioning take place in one or more heating furnaces (1) suitable for heating said preforms (P).

15 9. A plant as claimed in one or more claims from 1 to 8 wherein said first and second thermal conditioning stages both take place in cooling stations suitable for cooling said at least one plastic item more than would result from placing said at least one plastic item in the environment outside said first and second conditioning stage.

20 10. A plant as claimed in one or more claims from 1 to 9 comprising a heating furnace where said first and second heating stages both take place in said furnace.

11. A plant as claimed in one or more claims from 1 to 10 comprising a cooling unit and where said first and second thermal conditioning stages both take place in said cooling unit.



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